

We claim

1 1.-24. (cancelled)

1 25. (previously presented) A method of selecting an asphalt emulsion mixture to be

2 used for reconstructing a paved road, comprising:

3 providing reclaimed asphalt pavement particles;

4 selecting an emulsion;

5 mixing said emulsion and said reclaimed asphalt pavement particles to form a

6 proposed asphalt emulsion mixture;

7 testing said proposed asphalt emulsion mixture for performance using a raveling

8 test and a moisture susceptibility test; and

9 selecting said asphalt emulsion mixture to be used for reconstructing said paved

10 road after testing said proposed asphalt emulsion mixture for performance.

1 26. (previously presented) The method of claim 25, further comprising:

2 testing said proposed asphalt emulsion mixture for performance using a stability

3 test; and

4 selecting said asphalt emulsion mixture to be used for reconstructing said paved

5 road after testing said proposed asphalt emulsion mixture for performance.

1 27. (previously presented) The method of claim 26, further comprising:

2 testing modulus of said proposed asphalt emulsion mixture; and

3 selecting said asphalt emulsion mixture to be used for reconstructing said paved

4 road after testing modulus of said proposed asphalt emulsion mixture.

1 28. (previously presented) The method of claim 27, wherein resilient modulus is

2 tested.

- 1 29. (previously presented) The method of claim 25, further comprising:
2 testing modulus of said proposed asphalt emulsion mixture; and
3 selecting said asphalt emulsion mixture to be used for reconstructing said paved road
4 after testing modulus of said proposed asphalt emulsion mixture.
- 1 30. (previously presented) The method of claim 29, wherein resilient modulus is
2 tested.
- 1 31. (previously presented) The method of claim 25, further comprising:
2 testing said proposed asphalt emulsion mixture for performance using a thermal
3 cracking test; and
4 selecting said asphalt emulsion mixture to be used for reconstructing said paved
5 road after testing thermal cracking of said proposed asphalt emulsion mixture.
- 1 32. (currently amended presented) The method of claim 25, further comprising:
2 testing said proposed asphalt emulsion mixture for performance using a thermal
3 cracking test and a stability test; and
4 selecting said asphalt emulsion mixture to be used for reconstructing said paved
5 road after testing thermal cracking and stability of said proposed asphalt emulsion
6 mixture.
- 1 33. (previously presented) The method of claim 25, wherein said selected asphalt
2 emulsion mixture comprises a cationic emulsifier.
- 1 34. (previously presented) The method of claim 25, further comprising:
2 taking samples of said road; and
3 using said samples to make said reclaimed asphalt pavement particles.
- 1 35. (previously presented) The method of claim 34, further comprising:

2 inspecting said samples to determine the composition of layers in said samples,
3 the thickness of said layers, and variations between samples.

1 36. (previously presented) The method of claim 34, wherein said samples are crushed
2 to form reclaimed asphalt pavement particles.

1 37. (previously presented) The method of claim 34, wherein said samples are
2 representative of variations in the road.

1 38. (previously presented) The method of claims 25, wherein at least two different
2 proposed asphalt emulsion mixtures are formulated and tested for performance before
3 said asphalt emulsion mixture to be used for reconstruction said paved road is selected.

1 39. (previously presented) The method of claim 25, wherein said selected asphalt
2 emulsion mixture ravels no more than about 2% by weight after curing for at least about
3 4 hours.

1 40. (previously presented) The method of claim 31, wherein said selected asphalt
2 emulsion mixture has a critical cracking temperature that is at least as low as the possible
3 coldest temperature of said road with 98% reliability.

1 41. (previously presented) The method of claim 25, wherein said selected asphalt
2 emulsion mixture has a retained strength, as determined by a moisture susceptibility test,
3 of at least about 70%.

1 42. (previously presented) A method of reconstructing a paved road, comprising:
2 forming a proposed asphalt emulsion mixture from an emulsion and reclaimed
3 asphalt pavement particles;
4 testing said proposed asphalt emulsion mixture for performance using a raveling
5 test and a moisture susceptibility test; and

6 selecting an asphalt emulsion mixture to be used for reconstructing said paved
7 road after testing said proposed asphalt emulsion mixture for performance;
8 removing pavement from said road to form reclaimed asphalt pavement particles,
9 leaving at least about an inch of said pavement on said road;
10 mixing said reclaimed asphalt pavement particles from said road with an emulsion
11 to form said selected asphalt emulsion mixture; and
12 applying said selected asphalt emulsion mixture to said partially reclaimed road so as to
13 form a cold in-place recycling layer on said road.

1 43. (previously presented) The method of claim 42, further comprising:

2 inspecting said road to determine if said road is thick enough to leave at least
3 about an inch base of pavement after removing pavement;
4 determining if said road has a structurally sound base; and
5 determining if said road has good drainage.

1 44. (currently amended) The method of claim 42, further comprising;

2 applying to said cold in-place recycling layer a wearing surface selected from the
3 group consisting of a cold, hot, or warm mix overlay, a seal coat, a chip seal, a fog seal,
4 ~~or other surface treatment~~ or other acceptable road surface treatment.

1 45. (previously presented) The product of the process of claim 42.

1 46. (new) A method of selecting an asphalt emulsion mixture to be used for
2 reconstructing a paved road, comprising:

3 providing reclaimed asphalt pavement particles;
4 selecting an emulsion;

5 mixing said emulsion and said reclaimed asphalt pavement particles to form a
6 proposed asphalt emulsion mixture;
7 testing said proposed asphalt emulsion mixture for performance using a raveling
8 test; and
9 selecting said asphalt emulsion mixture to be used for reconstructing said paved
10 road after testing said proposed asphalt emulsion mixture for performance.

1 47. (new) The method of claim 46, further comprising:
2 testing said proposed asphalt emulsion mixture for performance using a stability
3 test; and
4 selecting said asphalt emulsion mixture to be used for reconstructing said paved
5 road after testing said proposed asphalt emulsion mixture for performance.

1 48. (new) The method of claim 47, further comprising:
2 testing modulus of said proposed asphalt emulsion mixture; and
3 selecting said asphalt emulsion mixture to be used for reconstructing said paved
4 road after testing modulus of said proposed asphalt emulsion mixture.

1 49. (new) The method of claim 48, wherein resilient modulus is tested.

1 50. (new) The method of claim 46, further comprising:
2 testing modulus of said proposed asphalt emulsion mixture; and
3 selecting said asphalt emulsion mixture to be used for reconstructing said paved
4 road after testing modulus of said proposed asphalt emulsion mixture.

1 51. (new) The method of claim 50, wherein resilient modulus is tested.